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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,768	02/12/2002	Puwen Zhang	AHPWA6BUSA	8093
38199	7590	03/09/2004	EXAMINER	
HOWSON AND HOWSON CATHY A. KODROFF ONE SPRING HOUSE CORPORATE CENTER BOX 457 SPRING HOUSE, PA 19477			TRUONG, TAMTHOM NGO	
			ART UNIT	PAPER NUMBER
			1624	

DATE MAILED: 03/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/074,768

**Applicant(s)**

ZHANG ET AL.

**Examiner**

Tamthom N. Truong

**Art Unit**

1624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-27 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

Group 1: Claims 1, 2, 17-20 (part of each), drawn to compounds of the benzo-fused formula with the following ring atoms and substituents:

**A is O;**  
**B is CR<sup>5</sup>R<sup>6</sup>;**  
**R<sup>3</sup> is (a) or optionally substituted phenyl;**

Their pharmaceutical composition and method of "inducing contraception" classified in classes 514, and 544, various subclasses depending on the substituents.

Group 2: Claims 1, 2, 8, 9, 17-20 (part of each), drawn to compounds of benzo-fused formula with the following ring atoms and substituents:

**A is S;**  
**B is CR<sup>5</sup>R<sup>6</sup>;**  
**R<sup>3</sup> is (a) or optionally substituted phenyl;**

Their pharmaceutical composition and method of "inducing contraception" classified in classes 514 and 544, various subclasses depending on the substituents.

Group 3: Claims 1, 2, 10, 11, and 13-20 (part of each), drawn to compounds of the benzo-fused formula with the following ring atoms and substituents:

**A is NR<sup>4</sup>;**

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**B is CR<sup>5</sup>R<sup>6</sup>;**

**R<sup>3</sup> is (a) or optionally substituted phenyl;**

Their pharmaceutical composition and method of “inducing contraception”  
classified in classes 514, and 544, various subclasses depending on the  
substituents.

Group 4: Claims 1, 3, 4, 17-20 (part of each), drawn to compounds of benzo-fused  
formula with the following ring atoms and substituents:

**A is O;**

**B is CR<sup>5</sup>R<sup>6</sup>;**

**R<sup>3</sup> is (b) or optionally substituted 5- or 6-membered ring having 1, 2,  
or 3 heteroatoms;**

Their pharmaceutical composition and method of “inducing contraception”  
classified in classes 514 and 544, various subclasses depending on the  
substituents.

Group 5: Claims 1, 3, 4, 17-20 (part of each), drawn to compounds of benzo-fused  
formula with the following ring atoms and substituents:

**A is S;**

**B is CR<sup>5</sup>R<sup>6</sup>;**

**R<sup>3</sup> is (a) or optionally substituted 5- or 6-membered ring having 1, 2,  
or 3 heteroatoms;**

Their pharmaceutical composition and method of “inducing contraception”  
classified in classes 514 and 544, various subclasses depending on the  
substituents.

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Group 6: Claims 1, 3, 4, 12 and 17-20 (part of each), drawn to compounds of the benzo-fused formula with the following ring atoms and substituents:

**A is NR<sup>4</sup>;**  
**B is CR<sup>5</sup>R<sup>6</sup>;**  
**R<sup>3</sup> is (a) or optionally substituted 5- or 6-membered ring having 1, 2, or 3 heteroatoms;**

Their pharmaceutical composition and method of “inducing contraception” classified in classes 514, and 544, various subclasses depending on the substituents.

Group 7: Claims 21-23, drawn to a method of treatment or prevention of benign or malignant neoplastic disease, and a method of treating carcinomas or adenocarcinomas, classified in class 514, various subclasses depending on the substituents. Further restriction and/or election of species will be required if this group is elected.

Group 8: Claims 5, 24, 26, and 27 (part of each), drawn to compounds of the benzo-fused formula with the following ring atoms and substituents:

**A is O;**  
**B is a bond between A and C=Q;**  
**R<sup>3</sup> is (a) or optionally substituted phenyl;**

classified in classes 544, and 548, various subclasses depending on the substituents.

Group 9: Claims 6, 7, 24, 25, and 27 (part of each), drawn to compounds of benzo-fused formula with the following ring atoms and substituents:

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**A is S;**  
**B is a bond between A and C=Q;**  
**R<sup>3</sup> is (a) or optionally substituted phenyl;**

classified in classes 544 and 548, various subclasses depending on the substituents.

Group 10: Claims 24, 26, and 27 (part of each), drawn to compounds of the benzo-fused formula with the following ring atoms and substituents:

**A is O;**  
**B is a bond between A and C=Q;**  
**R<sup>3</sup> is (b), (c) or (d);**

classified in classes 544, and 548, various subclasses depending on the substituents.

Group 11: Claims 24, 25, and 27 (part of each), drawn to compounds of benzo-fused formula with the following ring atoms and substituents:

**A is S;**  
**B is a bond between A and C=Q;**  
**R<sup>3</sup> is (b), (c), or (d);**

classified in classes 544 and 548, various subclasses depending on the substituents.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions of Groups 1-6, and 8-11 are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the

instant case the different inventions are defined by various bicyclic groups formed by variables A, B, and their substituent R<sup>3</sup>.

A. The general "benzo" core alone cannot define the invention sufficiently, and it is not applicant's contribution to the art. Therefore, it is the combination of benzo ring and the ring having A and B, with the substituent R<sup>3</sup> that gives the compounds in each group their unique physical and chemical properties, which make them patentably distinct over the compounds of the other group. Thus, a reference that anticipated or rendered obvious one group, would not do so to the others, and so, a separate search for each group is required. Furthermore, the initial EAST search yields a large number of hits for species of quinoxaline, and benzothiazole. Therefore, there exists a burden of searching for all the groups even though they appear to belong in the same classes and subclasses.

B. The invention of group 7 is essentially drawn to a method of treating or preventing cancers, which cannot be rendered obvious by a reference teaching "a method of inducing contraception". Also, a reference that reads on the compounds does not necessarily read on the methods of the instant claims 21-23. Again, an additional search is required, and thus, raises the burden of searching.

Because these inventions are distinct for the reasons given above and the search required for one group is not required for other groups, restriction for examination purposes as indicated is proper.

Due to the complexity of the grouping, the restriction is presented in writing. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamthom N. Truong whose telephone number is 571-272-0676. The examiner can normally be reached on M-T (~10 am ~ 8:30 pm) starting from February 22<sup>nd</sup>, 2004.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mukund Shah can be reached at 571-272-0674. If you are unable to reach Dr. Shah within a 24 hour period, please contact James O. Wilson, Acting SPE of 1624, at 571-272-0661. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.

  
RICHARD L. RAYMOND  
ACTING SPE  
ART UNIT 1624

T. Truong

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March 7, 2004